DOCUMENT RESUME

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TITLE	Individually Guided Mathematics (Part of the Series "Individually Guided Education"). Description of Teacher Inservice Education Materials.
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DESCRIPTORS	Elementary Education; *Individualized Instruction; *Inservice Teacher Education; *Instructional Materials; *Mathematics Instruction; *Teaching Techniques; Validated Programs
IDENTIFIERS	*Individually Guided Education

ABSTRACT

The described inservice education course is for the use of elementary school teachers who wish to develop skills in initiating an individually guided mathematics program. The scope and sequencing of topics in the course are outlined, and activities and resources involved are described. Ordering information for materials is given, and a critique of the course is included. (JD)

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DESCRIPTION OF TEACHER INSERVICE EDUCATION MATERIALS

SUMMARY INFORMATION

Title: INDIVIDUALLY GUIDED MATHEMATICS (part of the series "Individually Guided Education")

Publication Date(s): Copyright 1976

Intended Users: Preservice and inservice teachers and all who are interested in implementing an elementary mathematics program

Grade Level(s): K-6

Number: Group

Primary Focus: The intent of the product is to build users' skills at initiating an individually guided mathematics program; to increase their understanding of the mechanics of such a program; and to provide them with needed information for successfully carrying out the individually guided mathematics program.

School subject(s) and/or inservice topic(s) covered:

The inservice topic covered is the teaching of mathematics in an individually guided program.

The school subject covered is mathematics at the elementary level.

What participant does in using the materials:

The user reads the appropriate material in the text, listens to presentations by the instructor, views films and filmstrips (if instructor desires), and engages in activities and assessments as selected by the instructor. The user may observe a classroom and/or interact with students using the program.

Resources: Resources include a 196-page softcover text, an 86-page Instructor's Guide, a film and three filmstrips (sound/color). The Instructor's Guide includes assessment instruments and activities as well as three appendices giving objectives (instructional) for the film and filmstrips, a list of resources, and sample course outlines. The time needed for program completion will depend on the type of course in which it is used. For inservice teachers the course could be as brief as an hour daily for six days; for the undergraduate or graduate student, it could comprise a semester or part of a semester.

Describer critique:

The material is primarily of value to users who are already participating or wish to participate in an individually guided education (IGE) program. The product, however, is a useful learning tool for any teachers of elementary mathematics, especially those who wish to individualize their present programs. The material, on the whole, is clearly expressed, although some of the vocabulary used may be unfamiliar to users.

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1.0 PURPOSES:

Rationale

In the foreword, the developer states: "These are exciting and challenging times in American education. Personnel in local school districts, intermediate education agencies, state education agencies, and teacher education institutions are cooperating as never before to improve the quality of education for children . . . . Bringing Individually Guided Education, a new approach to education to an ever increasing number of students provides the focus for many of these cooperative efforts." The describer infers that the rationale for this product is the developers' belief in the need for an individually guided program in mathematics which will correspond to the changing curriculum of today's schools.

Goals

In the preface, the developer states: "The purpose of this book is to provide present and prospective elementary teachers with the understandings and attitudes required to implement an individually guided mathematics program. The system of IGE is a major educational change, which has potential for substantially improving the education of our children. In this system the teacher is the guide who leads and helps students toward educational objectives."

The describer infers that the goal of the product is to familiarize the user with methods and techniques necessary to individually guide children in the study of mathematics.

Objectives

No overall objectives are stated by the developer; there are specific objectives for each chapter in the text. For example, two of the objectives for chapter I, "Introduction to Individaully Guided Mathematics Instruction", are as follows: "To describe and identify the differences between mathematical problem solving, intellectual processes, and mathematical concepts and skills . . . To describe and give examples of individual differences and how they effect mathematical instruction."

2.0 CONTENT — Scope and Sequencing of Topics:

The product is comprised of a 196-page text, an 86-page Instructor's Guide, a 17-minute filmstrip, and three 15-minute filmstrips. Contents of the books and film titles are listed below:

Individually Guided Mathematics

"Introduction to Individaully Guided Mathematics" (pp. 1-18)
"A Framework for Objective-Based Mathematics Instruction" (pp. 19-46)
"Mathematical Content for the Elementary School" (pp. 47-76)
"Managing Instruction" (pp. 77-112)
"Principles of Instruction" (pp. 113-136)
"Providing for Individual Needs" (pp. 137-154)
Appendix A: Overview of Intellectual Processes Used by Students to Solve Initial Mathematics Problems (pp. 155-162)
Appendix B: The List of 28 Mathematical Competencies Prepared by the Commission on Post-War Plans (pp. 163-166)
Appendix C: The List of Nine Content Strands Prepared by the California Statewide Advisory Committee (pp. 167-172)
Glossary (pp. 173-184)
Author Index (pp. 185-186)
Subject Index (pp. 187-196)

Instructor's Guide

Editor's Foreword
Introduction

Eight chapters corresponding to the titles of the chapters in the text (pp. 1-65).
Appendix A: Correlated Visuals and Their Instructional Objectives (pp. 66-72)
Appendix B: A List of the Textbooks, Instructor's Guides, Films and Filmstrips of the Leadership Series in Individually Guided Education (pp. 73-75)
Appendix C: Sample Course Outlines (pp. 77-87)

One film: "Children Learn Mathematics" (17 minutes)

Three filmstrips:
"Objective-Based Mathematics Instruction" (15 minutes)
"Assessing Children's Attainment of Mathematics" (15 minutes)
"Managing Individually Guided Mathematics Instruction (15 minutes)

Although the developer makes no specific statement about sequence, the describer infers that the material is designed to be used in the order established by the developer.

There are no prerequisites to the use of this product.

3.0 ACTIVITIES AND RESOURCES INVOLVED IN USE OF PRODUCT

3.1 Description of main *in*service activities:

The user meets with a group of peers and an instructor. The learning setting is a classroom, equipped with audiovisual equipment for film and filmstrips (if the instructor plans to use the visuals).

The user will read the chapter material, listen to a presentation by the instructor, view the film and filmstrips, and engage in discussion, activities and evaluations as selected by the instructor.

The instructor's role is to present the material he chooses to use, i.e., visuals, activities and evaluations, and text content. Selection of these will depend on the type of course, i.e., graduate, undergraduate, or inservice, and whether administered for credit or non-credit.

Completion time may vary from an hour daily for a period of one week to all or part of a semester's course work.

3.2 Help given in use of product:

An 85-page softcover booklet, The Instructor's Guide for Individually Guided Mathematics, is provided for the use of the program instructor. Some guidelines for adaptation are supplied which suggest how the material may be used in various types of programs.

The instructor should be well versed in the language and concepts of mathematics and be familiar with the principles and methods of individually guided education.

4.0 EVALUATION OF TEACHER INSERVICE LEARNING

Each chapter of the Instructor's Guide contains evaluation material that may be used as pretests and posttests. These tests would be administered by the instructor.

5.0 ORDERING INFORMATION

5.1 Resources required/recommended for implementing product:

The time the user spends on the product depends upon whether the user is taking an undergraduate or graduate course, or inservice teacher training. As preservice course material the program could cover an entire semester, or as inservice, as little as six hours spread over a time period of a month or a week.

In addition to the product materials themselves, space and equipment requirements include: a classroom, a film projector, a filmstrip projector, sound equipment, a screen, and a school building and students (when the program is used as inservice training).

The instructor and all administrative/organizational arrangements must be supplied by the user or the users' school or university.

5.2 Distributor name/address:

Addison-Wesley Publishing Company
Jacob Way
Reading, Massachusetts 08167

(617) 944-3700

5.3 Components/approximate costs:

Component	Purchase	Rental	No. Req.	Reusable
INDIVIDUALLY GUIDED MATHEMATICS includes:	$290.95	no		
books:				
Individually Guided Mathematics			1/participant	yes
Instructor's Guide			one	yes
film: "Children Learn Mathematics"	$240	$35/ten days	one	yes
filmstrips:				
"Objective-Based Mathematics Instruction"	$15.00	no	one	yes
"Assessing Childrens' Attainment of Mathematics"	$15.00	no	one	yes
"Managing Individually Guided Mathematics"	$15.00	no	one	yes

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6.0 HISTORY OF DEVELOPMENT

6.1 Identification of the developer:

The author of the book is Thomas A. Romberg of the University of Wisconsin at Madison. Dr. Romberg is the developer of Developing Mathematical Processes, a widely used curricular program in elementary mathematics. The source of this information is Dr. Herbert J. Klausmeier, series editor and director.

6.2 How developed and when:

Work on the products in the series, "Individually Guided Education" began in 1972 in response to a request from the Sears Roebuck Foundation, which funded the project. The program was developed over a period of four years and was field tested in 17 elementary schools representing the four main geographical areas of the United States.

6.3 Evidence of effectiveness with users:

As a result of the field testing, Dr. Klausmeier, project director, says that the product was redesigned to be more practical and less theoretical.

DESCRIBER CRITIQUE

Appropriateness / adaptability / technical quality:

The program adequately enables users to achieve its intended goals, i.e., to conceptualize and implement an individually guided program in mathematics.

The product is adaptable for preservice and inservice teachers at the elementary level. The describer does not believe it would be applicable to teachers who will not be dealing with mathematics.

The technical quality of the books is excellent. The print is clear and the graphics attractive. The technical quality of the film and filmstrips is equally high. Color and sound are clear, the pictures are attractive and the audio frame advance signals are audible.

Content accuracy/social fairness/community acceptance issues:

The factual information appears to be accurate and current.

Dr. Klausmeier notes that the text and film contents were edited to delete any inference of racial, ethnic or sexual bias.

The content could be considered controversial in that it is aimed toward individualizing instruction, which includes several methods unacceptable to some educators. Some mathematicians might take exception to certain sequences and the inclusion of some subjects at the elementary level, e.g., statistics and probability.

Overall summary/comment:

The product should prove highly useful to those teachers already involved in IGE or those who are planning to be. Since much of the product content is centered on IGE methods and philosophy, it could be less useful for teachers in schools not utilizing IGE programs. The material as presented, however, has value for any teachers of elementary mathematics, in spite of some implied problems with implementation and organization.

On the whole, the product is clearly written, although some teachers may find some of the vocabulary used, e.g., "numerousness", unfamiliar. The audiovisual material is attractive and helps to clarify the text, although some may find the content of the filmstrips somewhat repetitive.

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